1   <u>**AMENDMENTS TO THE CLAIMS**</u>

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3   This listing of claims will replace all prior versions, and listings, of claims in the

4   application:

5

6   <u>Listing of Claims</u>

7

8   1. (Original)A method of obtaining a digital code representative of a skin-covered

9   body part, the method including:

10   -   acquiring an image of the skin-covered body part, the image including a

11   plurality of pixels, each pixel having an associated shade value in a range of

12   shade values;

13   -   identifying a plurality of subsets of pixels from the plurality of pixels, each

14   subset of pixels including at least two pixels having a common one of a

15   plurality of designated shade values in the range of shade values;

16   -   for each of a plurality of combinations of pixels taken from the pixels in the

17   subsets of pixels, determining a geometric measure of the pixels in said

18   combination;

19   -   encoding the geometric measures into a digital code for the skin-covered body

20   part.

21

22   2. (Original) The method defined in claim **1**, wherein said acquiring an image of the

23   skin-covered body part is performed by a CMOS charge-coupled device.

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25   3. (Original) The method defined in claim **1**, wherein the image is derived from a

26   live scan of the skin-covered body part pressed onto a platen.

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28   4. (Original) The method defined in claim **1**, wherein said identifying a plurality of

29   subsets of pixels from the plurality of pixels includes identifying a first subset of

30   pixels and identifying a second subset of pixels.

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32   5. (Original) The method defined in claim **4**, wherein said identifying a first subset

33   of pixels includes:

34   -   identifying a first pixel having any of the designated shade values;

2

1   - identifying a second pixel having the same designated shade value as the first

2   pixel;

3   wherein the first subset of pixels includes said first and second pixels.

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5   6. (Original) The method defined in claim 5, wherein said identifying a second

6   subset of pixels includes:

7   - identifying a third pixel having any of the designated shade values;

8   - identifying a fourth pixel having the same designated shade value as the third

9   pixel;

10   wherein the second subset of pixels includes said third and fourth pixels.

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12   7. (Original) The method defined in claim 6, wherein identifying the first pixel

13   includes identifying which pixel having the designated shade value is nearest a

14   reference point in the image.

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16   8. (Original) The method defined in claim 7, wherein identifying the second pixel

17   includes identifying which pixel having the designated shade value is nearest the

18   first pixel.

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20   9. (Original) The method defined in claim 7, wherein identifying the second pixel

21   includes identifying which pixel separated from the first pixel by at least a

22   minimum distance and having the designated shade value is nearest the first pixel.

23

24   10. (Original) The method defined in claim 7, wherein identifying the second pixel

25   includes identifying which pixel having the designated shade value is second

26   nearest the reference point.

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28   11. (Original) The method defined in claim 7, wherein identifying the second pixel

29   includes identifying which pixel separated from the first pixel by at least a

30   minimum distance and having the designated shade value is second nearest the

31   reference point.

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33   12. (Original) The method defined in claim 11, wherein the reference point is a center

34   of the image.

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2   13. (Original) The method defined in claim **11**, wherein the reference point is a corner

3   of the image.

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5   14. (Original) The method defined in claim **11**, wherein the reference point is a salient

6   feature of the image.

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8   15. (Original) The method defined in claim **14**, further including identifying the

9   salient feature of the image.

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11   16. (Original) The method defined in claim **1**, further including consulting a database

12   to obtain the designated shade values.

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14   17. (Original) The method defined in claim **1**, wherein the plurality of designated

15   shade values are pre-determined and independent of the image.

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17   18. (Original) The method defined in claim **1**, further including selecting the plurality

18   of designated shade values on a basis of a characteristic of the image.

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20   19. (Original) The method defined in claim **1**, wherein the designated shade values are

21   grayscale values.

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23   20. (Original) The method defined in claim **1**, wherein the range of shade values

24   includes 256 grayscale values.

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26   21. (Original) The method defined in claim **1**, wherein each said combination of

27   pixels includes a respective first pixel and a respective second pixel, and wherein

28   determining a geometric measure of the pixels in a particular one of the plurality

29   of combinations includes determining a distance between the respective first pixel

30   and the respective second pixel.

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32   22. (Original) The method defined in claim **21**, wherein said determining a distance

33   between the respective first pixel and the respective second pixel includes

determining a number of pixels separating the respective first pixel and the respective second pixel.

23. (Original) The method defined in claim **21**, wherein said determining a distance between the respective first pixel and the respective second pixel includes determining a first number of pixels separating the respective first pixel and the respective second pixel along a first direction and determining a second number of pixels separating the respective first pixel and the respective second pixel along a second direction orthogonal to the first direction.

24. (Original) The method defined in claim **1**, wherein each said combination of pixels includes at least three respective pixels.

25. (Original) The method defined in claim **24**, wherein determining a geometric measure of the pixels in a particular one of the plurality of combinations includes determining an average distance among all pairs of the at least three respective pixels.

26. (Original) The method defined in claim **24**, wherein determining a geometric measure of the pixels in a particular one of the plurality of combinations includes determining an area of a polygon constructed from the at least three respective pixels.

27. (Original) The method defined in claim **24**, wherein determining a geometric measure of the pixels in a particular one of the plurality of combinations includes determining an average distance to a center of mass of the at least three respective pixels.

28. (Original) The method defined in claim **1**, wherein each combination of pixels includes a plurality of pixels taken from the same subset of pixels.

29. (Original) The method defined in claim **1**, wherein all the pixels in a particular one of the combinations of pixels are taken from the same subset of pixels.

1   30. (Original) The method defined in claim **1**, wherein each combination of pixels
2   includes at least two pixels taken from different subsets of pixels.
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4   31. (Original) The method defined in claim **1**, wherein said encoding the geometric
5   measures into a digital code includes concatenating the geometric measures into
6   the digital code.
7
8   32. (Original) The method defined in claim **1**, further including encoding the
9   designated shade values into the digital code.
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11   33. (Original) The method defined in claim **1**, further including encrypting the digital
12   code.
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14   34. (Original) The method defined in claim **1**, wherein the skin-covered body part
15   includes a finger tip.
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17   35. (Original) The method defined in claim **1**, wherein the skin-covered body part
18   does not includes a finger tip.
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20   36. (Original) The method defined in claim **1**, wherein the skin-covered body part
21   includes a nose tip.
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23   37. (Original) The method defined in claim **1**, wherein the skin-covered body part
24   includes a palm of a hand.
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26   38. (Original) The method defined in claim **1**, wherein the skin-covered body part
27   includes an ear.
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29   39. (Original) A computer-readable storage medium containing a program element for
30   execution by a computing device to implement a method of obtaining a digital
31   code representative of a skin-covered body part, the program element including:
32   -   program code means for acquiring an image of the skin-covered body part, the
33   image including a plurality of pixels, each pixel having an associated shade
34   value in a range of shade values;

1   - program code means for identifying a plurality of subsets of pixels from the

2   plurality of pixels, each subset of pixels including at least two pixels having a

3   common one of a plurality of designated shade values in the range of shade

4   values;

5   - program code means for determining, for each of a plurality of combinations

6   of pixels taken from the pixels in the subsets of pixels, a geometric measure of

7   the pixels in said combination;

8   - program code means for encoding the geometric measures into a digital code

9   for the skin-covered body part.

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11   40. (Original) An apparatus for obtaining a digital code representative of a skin-

12   covered body part, the apparatus including:

13   - means for acquiring an image of the skin-covered body part, the image

14   including a plurality of pixels, each pixel having an associated shade value in a

15   range of shade values;

16   - means for identifying a plurality of subsets of pixels from the plurality of

17   pixels, each subset of pixels including at least two pixels having a common

18   one of a plurality of designated shade values in the range of shade values;

19   - means for determining, for each of a plurality of combinations of pixels taken

20   from the pixels in the subsets of pixels, a geometric measure of the pixels in

21   said combination;

22   - means for encoding the geometric measures into a digital code for the skin-

23   covered body part.

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25   41-90. (Cancelled)

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